



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/788,407      | 02/21/2001  | Michael A. Brown     | NC 80,124           | 5879             |

26384 7590 12/04/2002

NAVAL RESEARCH LABORATORY  
ASSOCIATE COUNSEL (PATENTS)  
CODE 1008.2  
4555 OVERLOOK AVENUE, S.W.  
WASHINGTON, DC 20375-5320

EXAMINER

TRAN A, PHI DIEU N

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3637

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/788,407

Applicant(s)

BROWN ET AL.

Examiner

Phi D A

Art Unit

3637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 3637

1. Applicant's election without traverse of claims 1-8 of group I in Paper No. 8 is acknowledged. Claims 9-15 are withdrawn from consideration. Claims 1-15 are pending.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 6, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Cummings et al (3811633).

Cummings et al (figure 1) shows a truss boom having a plurality of longerons (formed at the corners 21, 26, 24, 23) arranged parallel to and equidistant from a longitudinal axis of the truss boom forming a polygonal cross section normal to the longitudinal axis, a plurality of fixed battens (14, 17), a plurality of moveable battens (15-19), the fixed and moveable battens coupled to the longerons to form a plurality of polygonal frame members which are located in a series of planes normal to the longitudinal axis, the fixed battens interconnect the longerons to form two opposing rigid ladder shaped structures which are moveably connected by the movable battens, the truss boom being extended when the battens are fully extended and the ladder shaped structure are separated, the movable battens being closed and the ladder shaped structure being together such that the longerons are substantially coplanar, the four longerons being arranged in a square polygonal cross section, a mechanically actuated locking means (43) which releases the truss boom for stowage and locks the deployed truss boom in an expanded configuration.

Art Unit: 3637

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwartzberg et al (4475323).

Schwartzberg et al (figures 1-2) shows a truss boom having a plurality of longerons ( 26, 36) arranged parallel to and equidistant from a longitudinal axis of the truss boom forming a polygonal cross section normal to the longitudinal axis, a plurality of fixed battens (32, 30), a plurality of moveable battens (28), the fixed and moveable battens coupled to the longerons to form a plurality of polygonal frame members which are located in a series of planes normal to the longitudinal axis, the fixed battens interconnect the longerons to form two opposing rigid ladder shaped structures which are moveably connected by the movable battens, the truss boom being extended when the battens are fully extended and the ladder shaped structure are separated, the movable battens being closed and the ladder shaped structure being together such that the longerons are substantially coplanar, a plurality of diagonals (38, 45, 48) that interconnect adjacent polygonal frame members

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lyons (3751863).

Lyons (figure 1) shows a truss boom having a plurality of longerons ( 5) arranged parallel to and equidistant from a longitudinal axis of the truss boom forming a polygonal cross section normal to the longitudinal axis, a plurality of fixed battens (2), a plurality of moveable battens (4), the fixed and moveable battens coupled to the longerons to form a plurality of polygonal frame members which are located in a series of planes normal to the longitudinal axis, the fixed battens interconnect the longerons to form two opposing rigid ladder shaped structures which are moveably connected by the movable battens.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons (3751863).

Lyons shows all the claimed limitations except for the longerons having a corrugated cross section, the cross section being L-shaped.

Lyons (figure 9) shows a support structure having a corrugated L-shaped cross section.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Lyons to show the longerons having a corrugated cross section, the cross section being L-shaped because L, square, rectangular, tubular, and triangular shapes are well-known shapes for forming support structure.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Truss (4480415) in view of Lyons (3751863).

Truss shows an elongated truss boom having a plurality of longerons (13, figure 3) arranged parallel to and equidistant from a longitudinal axis of the truss boom forming a polygonal cross section normal to the longitudinal axis, a plurality of fixed battens (12), a plurality of moveable battens (17), the fixed battens and the moveable battens being coupled to the longerons to form a plurality of polygonal frame members which are located in a series of

planes normal to the longitudinal axis, a self actuation means (14, figure 3) which biases the moveably battens and the truss boom in an expanded position.

Truss does not show the fixed battens interconnect the longerons to form two opposing rigid ladder shaped structures, which are moveably connected by moveable battens.

Lyons shows fixed battens (2) interconnect the longerons (5) to form two opposing rigid ladder shaped structures which are moveably connected by moveable battens (11).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Truss to show the fixed battens interconnect the longerons to form two opposing rigid ladder shaped structures which are moveably connected by moveable battens because forming two opposing rigid ladder shaped structures with fixed battens and longerons interconnected by moveable battens would enable the creation of a well-known rectangular, square truss boom, and such modification would have been an obvious matter of engineering design choice.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different truss boom structures.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 703-306-9136. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 703-308-2486. The fax phone numbers for the

Application/Control Number: 09/788,407

Page 6

Art Unit: 3637

organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Phi Dieu Tran A  
December 1, 2002

PA

LANNA MAI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

